

What makes ASCO's new electronic capabilities important to you?

Three quarters of a century in controls!

We've spent the best part of a century making a name for ourselves in the design and manufacture of quality electromagnetic controls. Now we're making electronic controls as well. And since we have both, the only axe we grind is yours! If electromagnetics can do the job best for you... we'll say so. If electronics are better... we'll tell you that too! Whatever works best for you will be recommended—and supplied—by ASCO.

Look at what our combined capabilities can do for you. One of our latest devices is a Transistorized Under and Over Frequency Relay... Catalog No. 214S31.

In constant ambient this relay can be adjusted to 0 differential. To our knowledge, this relay has higher sensitivity than any frequency relay presently on the market!

ASCO used the time-proven Bulletin 216 Control Relay (electromagnetic), controlled by encapsulated solid state elements (electronic). The result is a single relay that detects under and over frequencies, using a power relay for the switching contacts.

The 214S31 has two timing dials. One selects *under frequency* response (57-60 cycles); the other selects *over frequency* response (60-63 cycles). With dial settings locked, repetitive accuracy is within 0.2 cycle over an ambient range of 0-45°C. Response accuracy is unaffected by line voltage variations over an 80-130 volt range. A selective delay (0.1 second) is built-in, and controlled by toggle switch, for instant de-energizing

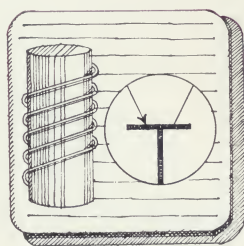
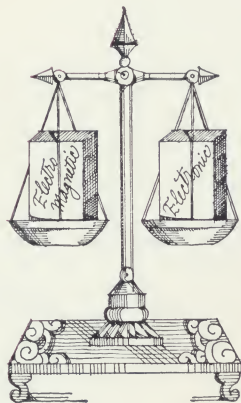
and delayed energizing or the reverse. The relay is simply connected to the line being monitored, with input power for the relay derived from the same source. Response is positive, with chatterless make and break of relay contacts. The package is available in a variety of configurations, depending on customer specification... with satisfaction guaranteed.

ASCO's uniquely combined capabilities are most evident in the design and production of relays sensitive to voltage, frequency, current and time. Other electronic equipment in prototype or production include current measuring devices for process control; ultra sensitive voltage measuring devices; frequency measuring devices, etc.

The dedicated engineering, comprehensive research and stringent quality assurance that made the ASCO name *mean* dependable controls is always available to solve your control problems, using the latest technological advances in electronics or electromagnetics—as required.

That's how we've operated since 1888.

Why change now?



Write for Complete Electronics Information

ASCO Control
ELECTROMAGNETIC • ELECTRONIC

ASCO®

DEPENDABLE CONTROL BY Automatic Switch Co. 50-56 HANOVER RD., FLORHAM PARK, N. J. 07932 • (201) 377-4600 • SOLENOID VALVES • AUTOMATIC TRANSFER SWITCHES • ASCO CONTROL

AUTOMATIC
POWER
TRANSFER
SYSTEMS

REMOTE
CONTROL
SWITCHES

RELAYS

CONTACTORS

SOLENOIDS

ELECTRIC
PLANT
CONTROLS

ACCESSORIES

**this complete ASCO line
assures dependable control**

for every location in your electrical system...

ASCO Control
ELECTROMAGNETIC • ELECTRONIC

ASCO[®]

The ASCO line encompasses a comprehensive range of electromagnetic and electronic control devices. ASCO Control includes standard equipment to suit almost all normal control requirements.

To permit increased freedom of design, ASCO provides a wide variety of specialized controls for specific applications.

When designing equipment requiring electromagnetic or electronic control, discuss your requirements with your ASCO Distributor. His advice will help you cut initial costs, improve your final product, and simplify automatic control. For the ASCO Distributor can recommend not only standard and catalog listed special purpose control, but can offer the services of the ASCO engineering department to develop the control equipment needed to meet your specialized requirements.

ASCO[®]

AUTOMATIC POWER TRANSFER SYSTEMS

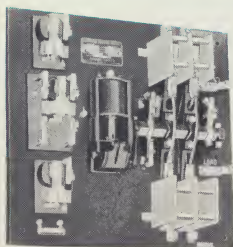
*A partial listing of ASCO Automatic Power Transfer Systems is shown here.
For a complete listing and full details, write for Catalog 57-S1.*

MECHANICALLY HELD

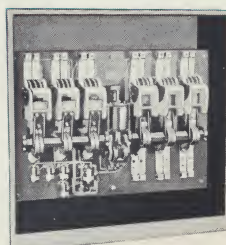
MAGNETICALLY HELD



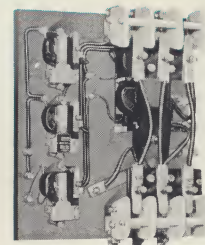
Bulletin 904-136



Bulletin 905



Bulletin 906



Bulletin 1046

Available for all classes of load to 750 volts AC-DC, these switches transfer connected load to emergency sources when normal power fails or is substantially reduced. Once the normal source is again at proper voltage and frequency the load is

automatically returned. Designed in sizes from 30 to 2000 amps, ASCO Automatic Transfer Switches are double throw, inherently interlocked types.

ASCO AUTOMATIC POWER TRANSFER SYSTEM SELECTION CHART
(Partial Listing)

Use	Listed Ratings* (No derating for high inrush loads.)	ASCO Bulletin No.
For utility services. Compact design. Mechanically held.	30 amps; to 250 volts A-C, 125 volts D-C.	904
For standby electric plants. Compact design. Mechanically held.	30 amps; to 250 volts A-C, 125 volts D-C.	904-136
Lighting and mixed loads. Mechanically held.	30 to 200 amps; to 250 volts A-C or D-C.	905
All loads. Mechanically held.	100 to 1200 amps; to 600 volts A-C, 250 volts D-C.	906
All loads. Mechanically held. Minimum width for control centers.	100 to 2000 amps; to 600 volts A-C, 250 volts D-C.	906-105
Lighting and mixed loads. Magnetically held.	30, 60, 100 amps; to 250 volts A-C or D-C.	1046

*For ratings other than those shown, consult factory.

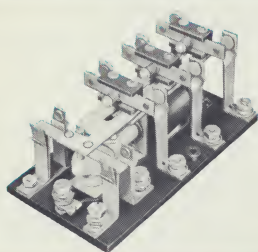
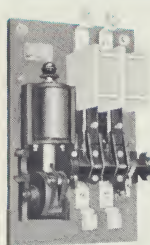
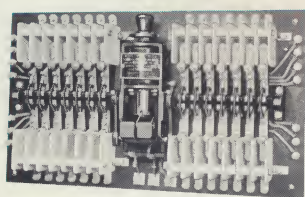
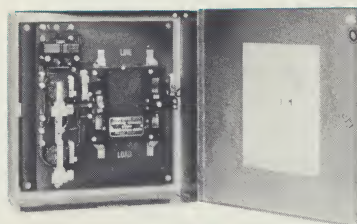
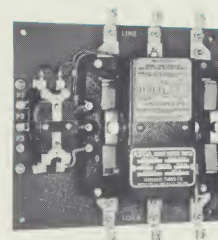
Accessories and additional features also available. Write for Catalog 57-S1 which gives complete listing and details.

ASCO**REMOTE CONTROL SWITCHES**

A partial listing of ASCO Remote Control Switches is shown here.
For a complete listing and full details, write for Catalog 57-S2.

ASCO Remote Control Switches provide convenient and accessible control of power and lighting circuits from any number of control stations. ASCO Remotes are mechanically held devices; accordingly they are unaffected by line voltage condi-

tions. They may be arranged for pushbutton, time switch, relay or other types of control. Each switch includes a manual operating knob or handle.

**Bulletin 909****Bulletin 910****Bulletin 911****Bulletin 915****Bulletin 920-238****Bulletin 920-114**

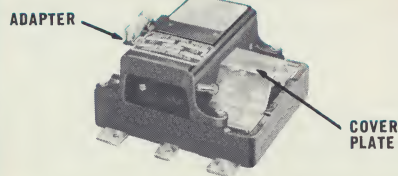
ASCO REMOTE CONTROL SWITCH SELECTION CHART (Partial Listing)

Use	Listed Ratings* (No derating for high inrush loads.)	ASCO Bulletin No.
For small panelboards. Lighting and certain mixed loads.	30 amps; to 250 volts A-C, 125 volts D-C; to 5 poles, single throw, 3 poles, double throw.	909
For load requirements exceeding capacity of the Bulletin 920. Lighting and mixed loads.	30 to 400 amps; to 250 volts A-C, 125 volts D-C; to 4 poles, single throw.	910
For high capacity, highly inductive loads of all classes.	30 to 2000 amps; to 600 volts A-C, 250 volts D-C; to 4 poles, single throw.	911
For oil burner panels, designed to Board of Education, City of New York specifications.	60 to 200 amps (full connected load); to 750 volts; 3 poles.	911-228
For multiple pole requirements. Lighting and mixed loads.	30, 60, 100 amps; to 250 volts A-C; to 24 poles, single or double throw.	915
For transformer type dimmers.	30 to 200 amps; to 250 volts A-C; 2, 3 and 4 poles, double throw.	915-175
For economy and rugged construction. Lighting and mixed loads.	30-200 amps; to 600 volts A-C, 250 volts D-C; 2 and 3 poles, single throw. U.L. approved for tungsten lamp loads to full capacity.	920
For lighting and mixed loads. Features 2 wire control from single-pole single-throw control stations.	(same as Bulletin 920)	920-114
Soundproof enclosures and shock and vibration mounts for Bulletin 920 remote control switches.	(same as Bulletin 920)	920M
Low voltage control for mechanically held remote control switches.	30 to 200 amps; to 600 volts A-C service; 24 volt, 60 cycle control.	920-238

*For ratings other than those shown, consult factory.

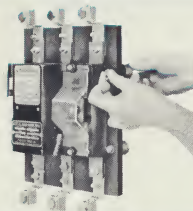
Accessories and additional features also available. Write for Catalog 57-S2 which gives complete listing and details.

FEATURES OF BULLETIN 920 REMOTE CONTROL SWITCHES



For added convenience: an adapter for control line fuse can be provided.

For safety: a cover plate is available to cover the contacts behind the handle — insuring complete safety to the operator.



Shock and vibration mounts are easily installed or removed.



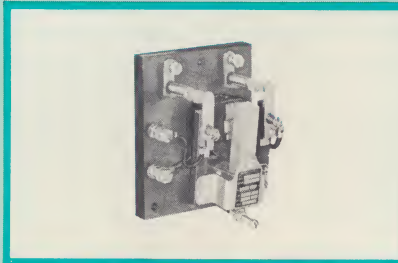
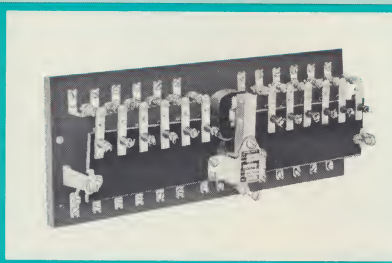
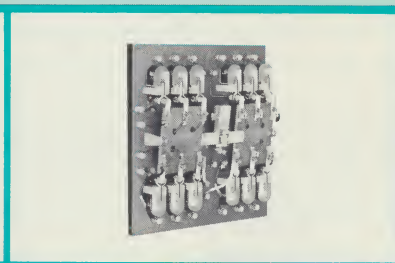
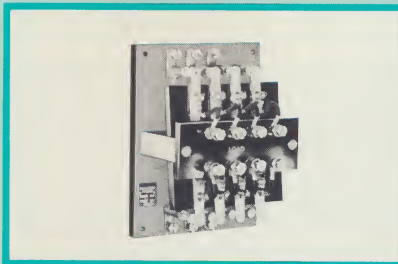
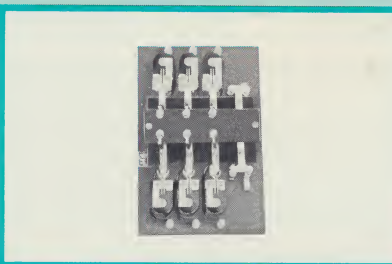
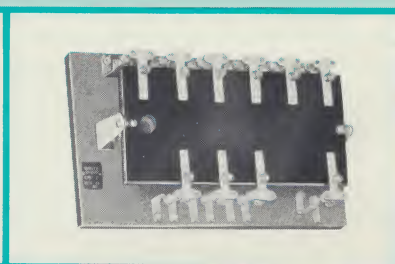
For installations where space is at a premium, a reduced width is available.

ASCO**RELAYS**

A partial listing of ASCO Relays is shown here.
For a complete listing and full details, write for Catalog 57-S4.

ASCO offers Electromagnetic and Electronic Relays, magnetically and mechanically held in sizes to 25 amps, A-C and D-C . . . plus a highly diversified line of special purpose relays listed as *standard catalog items*. Should any of these relays fail to meet specialized requirements — ASCO will design and manufacture one or more that will satisfy your needs.

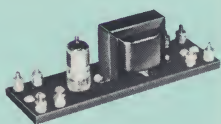
And most important — for assured performance, ASCO Relays are current and voltage rated "make" and "break." Almost unlimited pole combinations mean fewer relays in a system — more reliable operation. Adaptability of many proven contact materials, arcing contacts, blow-out coils and Class "H" insulating materials to ASCO Relays means suitability for all applications.

MAGNETICALLY HELD RELAYS**Bulletin 1054****Bulletin 1055****Bulletin 1057****MECHANICALLY HELD RELAYS****Bulletin 1255-166****Bulletin 1255-167****Bulletin 1256-169****ASCO RELAY SELECTION CHART
(Partial Listing)**

Type	Listed Ratings* (No derating for high inrush loads.)	ASCO Bulletin No.
Magnetically held, A-C	25 amps; to 600 volts; 1-12 poles	1054
Magnetically held, A-C	10 amps; to 600 volts; 2-24 poles	1055
Magnetically held, D-C	25 amps; to 250 volts; 1-12 poles	1057
Magnetically held, D-C	10 amps; to 250 volts; 1-12 poles	1058
Mechanically held, A-C	25 amps; to 250 volts; 1-5 poles, single throw 1-3 poles, double throw	1255
Mechanically held, A-C	25 amps; to 600 volts; 1-24 poles	1255-166
Mechanically held, A-C	10 amps; to 600 volts; 1-12 poles, single throw 1-12 poles, double throw	1256-168
Mechanically held, D-C	25 amps; to 250 volts; 1-12 poles	1255-167
Mechanically held, D-C	10 amps; to 250 volts; 1-12 poles	1256-169

*For ratings other than those shown, consult factory.

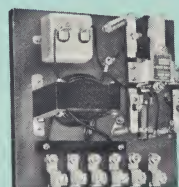
Additional features also available. Write for Catalog 57-S4 which gives complete listing and details.

PLUS A HIGHLY DIVERSIFIED LINE OF SPECIAL PURPOSE RELAYS LISTED AS STANDARD CATALOG ITEMS:**electronic relays —**

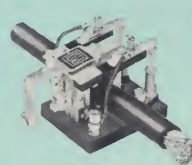
Extremely sensitive, for high speed response. "Brushing" of control leads — even momentarily — provides positive relay operation. Available with time delay.

**reverse
current relays —**

Disconnect D-C generators from the batteries which they are charging when current flows from the batteries to the generators.

**close
differential relays —**

Operate on voltage or current differential of 2% — less if required. Adjustable drop-out is standard. Adjustable pick-up is available.

**current relays —**

"Coil-less" type designed to function like a current transformer. Load cable through relay provides magnetic field for relay operation.

**time delay relays —**

Handle motor loads directly. Simple screwdriver adjustment makes possible delays from 1/2 to 6 seconds at any standard voltage. Used extensively on new brake winding motors.

and
hes

10L

R4

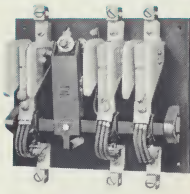
ASCO

CONTACTORS

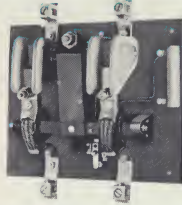
A partial listing of ASCO Contactors is shown here. For a complete listing and full details, write for Catalog 57-S3.

The varied and expanding line of ASCO Contactors is the result of an increasing demand for the specialized control to which ASCO standard designs can be economically applied. The line is diversified and flexible, so that

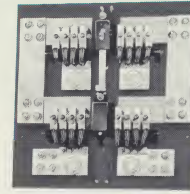
unusual control problems, which for others may mean expensive special designs, are often readily solved with ASCO catalog listed devices.



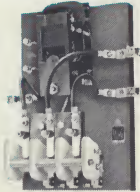
Bulletin 1035



Bulletin 1025



Bulletin 1025-111



Bulletin 1044



Bulletin 1045



Bulletin 1025-131



Bulletin 911-187

ASCO CONTACTOR SELECTION CHART (Partial Listing)

Use	Listed Ratings* (No derating for high inrush loads.)	ASCO Bulletin No.
Normally open. A-C. All classes of load.	30 to 300 amps; to 600 volts A-C; 1, 2 and 3 poles.	1035
Normally open. D-C. All classes of load.	30 to 300 amps; to 250 volts D-C; 1 and 2 poles.	1025
28 volts D-C service. A-C or D-C control. Normally open.	To 2000 amps single throw, 1500 amps two-throw, available to 8000 amps.	1025-111
Normally closed. A-C and D-C. Lighting and mixed loads.	30 to 100 amps; to 600 volts A-C, 250 D-C; 1, 2 and 3 poles.	1044
Double throw. A-C and D-C. Lighting and mixed loads.	30 to 100 amps; to 250 volts A-C and D-C; 1, 2 and 3 poles.	1045
Discharging and disconnecting D-C field coils.	30 to 200 amps; to 250 volts D-C. Available to 1000 amps.	1025-131
Feeder control switches. A-C and D-C. All classes of load.	200 to 1000 amps; to 600 volts A-C, 250 volts D-C; 2 and 3 poles.	911-187

*For ratings other than those shown, consult factory.

Accessories and additional features also available. Write for Catalog 57-S3 which gives complete listing and details.

ASCO

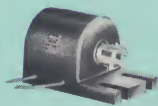
SOLENOIDS

A partial listing of ASCO Solenoids is shown here. For full details, write for Catalog 57-S5.

The ASCO approach to all solenoid application problems is on an engineering basis. Through a solenoid engineering specification data sheet, the customer can transmit information essential for proper selection of an

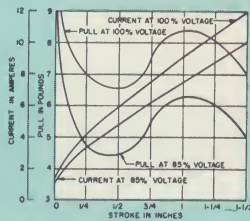
adequate solenoid. This is the service which the Automatic Switch Company has consistently rendered. The results have been dependable solenoids and satisfied customers.

Typical A-C Solenoid

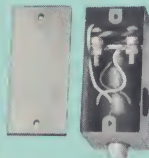


104S4

Iron-clad arrangement with clevis and plunger.

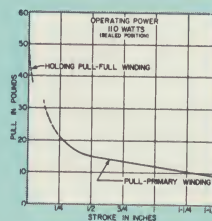


Typical D-C Solenoid



106S76

A fully enclosed solenoid with a built-in contact to provide tapped coil arrangement on pull-in and seal. At pull-in the heavy winding operates to provide maximum pull. When solenoid completes stroke, the built-in contact automatically connects the holding winding to reduce the coil watts.

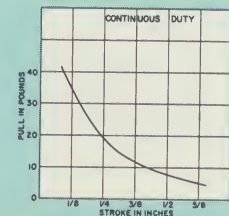


Typical Long Life Solenoid



106S1080LL

Designed for 100 million and more operations. For applications calling for a precision solenoid that must operate consistently and indefinitely. D-C pull type solenoid. Duty Cycle: Continuous Duty, 125 Volts D-C. A-C Long Life Solenoids also available.



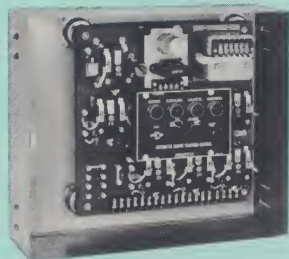
ASCO**ELECTRIC PLANT CONTROLS**

A partial listing of ASCO Electric Plant Controls is shown here.
For a complete listing and full details, write for Catalog 57-56.

The Automatic Switch Company designs and manufactures all electromagnetic control equipment for standby emergency power installations. Dependable ASCO equipment serves hospitals, hotels, television studios, mines, railroad and subway generat-

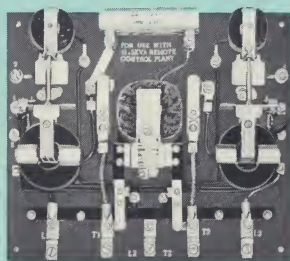
ing stations, microwave installations, restaurants and toll booths on new super highways — wherever continuity of light and power is vital.

Engine Starting Panel
Bulletin 1025-1345*



These starting controls are intended for fully automatic starting and stopping of engine driven generating sets under the control of an on-off control device. This control device can be a contact on the automatic transfer switch panel which closes when normal fails, a toggle switch, or a temperature or pressure device.

Load Demand Control
Bulletin 1054-160



Designed to start engine automatically when any load is applied and to automatically stop engine when all load is removed. Has built-in device that automatically holds off load until proper voltage and frequency are attained.

Battery Charger
Bulletin 203



For trickle or high rate charge.
Charging rate: 0.05 to 2.0 amperes.
Input: 120, 208, 240, 440, 480, 550, 600 volts, 60 cycles; 120 volts, 25 cycles.
Output: 6, 12, 24, 32 volts D-C.

Battery Charger
Bulletin 236



For trickle rate only.
Charging rate:
50 to 200 milliamperes.
Input: 110 to 120 volts, 60 cycles.
Output: 12 and 24 volts D-C.

*U. S. Patents 2,938,127; 3,047,725

Patented in Canada: 1962

ASCO**ACCESSORIES AND SPECIAL CONTROL EQUIPMENT**

A partial listing of ASCO Accessories and Special Control Equipment is shown here. For more information, write for Catalog 57-57.

A wide variety of standard and special applications can be handled with ASCO accessories and special control equipment. ASCO engineers welcome unusual control problems and will

be glad to assist you in meeting your electromagnetic and electronic control requirements.

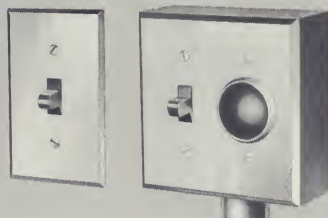
Break-Glass Switches



Bulletin 124
Flush Type Break-Glass Switch

When the glass is broken (hammer conveniently hangs at side), the switch automatically stops operating equipment such as oil burners, refrigerators, air conditioners, etc. Surface and flush mounting available.

Control Stations

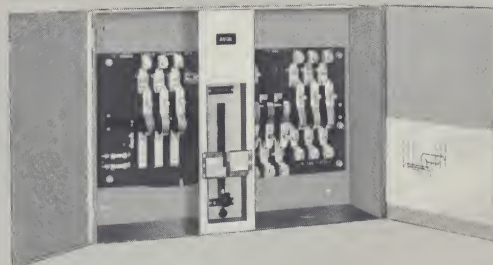


173S2
Control Station
for flush mounting.

173S5
Control Station with
pilot light for
surface mounting.

These control stations are designed primarily for use with Mechanically Held Switches and Relays.

Engine Generator Isolating Switches



Bulletin 910-143

These manually operated switches provide a means of by-passing an automatic transfer switch and generator set without interrupting the load circuits.

Write for Catalog (please specify Catalog No.)

- ☐ Automatic Transfer Switches (Cat. 57-S1)
- ☐ Remote Control Switches (Cat. 57-S2)
- ☐ Contactors (Cat. 57-S3)
- ☐ Relays (Cat. 57-S4)

- ☐ Solenoids (Cat. 57-S5)
- ☐ Electric Plant Control (Cat. 57-S6)
- ☐ Accessories and Special Control Equipment (Cat. 57-S7)

- ☐ Factors to Consider in the Selection and Application of Automatic Transfer Switches (Publication 596)
- ☐ Solenoid Valves (Cat. 203)

Or write for name of your local ASCO Distributor

ASCO Control
ELECTROMAGNETIC • ELECTRONIC

ASCO

DEPENDABLE CONTROL BY Automatic Switch Co. 50-56 HANOVER RD., FLORHAM PARK, N. J. 07932 • FRONTIER 7-4600 • SOLENOID VALVES • AUTOMATIC TRANSFER SWITCHES • ASCO CONTROL